APPENDIX A

Claims on appeal:

1.   A method of determining the shape and size of a foot comprising the steps of:

obtaining an imprint of the foot by compressing said foot into a compressible member;

scanning the imprint of the foot formed in said compressible member to obtain pixel image data regarding the foot imprint at one or more points;

determining at said one or more points the depth of the imprint from the image data;

determining the size of said foot imprint; and

determining the curvature of one or more portions of said foot imprint.

2.   The method in accordance with Claim 1 including the step of obtaining red, blue and green pixel image data of the foot imprint at one or more points.

3.   The method in accordance with Claim 1 including the step of converting said red, blue and green pixel image data to YIQ pixel data.

4.   The method in accordance with Claim 3 wherein said step of determining the depth comprises determining the depth of the imprint at a point from the Y pixel data for that point.

5.   The method in accordance with Claim 1 including the step of generating an altered image of said foot imprint and determining the size of said foot imprint from said altered image.

6.   The method in accordance with Claim 5 including the step of passing image data through a filter to create said altered image.

7.   The method in accordance with Claim 1 including the step of generating an element for mating with at least a portion of the foot using said depth, size and curvature information.

8.   The method in accordance with Claim 1 including the step of storing said depth, size and curvature information.

9.   A method of determining the size and shape of a foot comprising:

obtaining scanned image data of an imprint of the foot at one or more points, said image data including a luminance value;

determining a depth of the imprint at one or more points with said luminance value at said one or more points and a slope of the luminance value at said one or more points.

10.   The method in accordance with Claim 9 wherein a depth value is determined at one or more points in accordance with a linear function of the luminance value and luminance value slope said one or more points.

11.   The method in accordance with Claim 9 wherein said luminance value and luminance value slope are modified by a first and a second coefficient, respectively.

12.   The method in accordance with Claim 11 wherein a value of said first and second coefficients is determined using a least square method to minimize the average error.

13.   The method in accordance with Claim 11 wherein a value of said first and second coefficients is determined by measurement.

19.   A method of determining the size and shape of a foot comprising:

scanning an imprint of a foot to obtain pixel image data regarding the imprint at a plurality of points, said pixel image data including RGB color data;

determining the depth of said imprint at one or more points comprising the following steps:

converting said RGB data at one or more points to YIQ data; and

determining the depth of said imprint at one or more points from the Y component of said data at said one or more points and the slope of the Y component at said one or more points;

determining the size of said foot from said imprint by:

enhancing said image by passing said pixel image data through a low pass filter; and

measuring the size of said imprint generated from said filtered data; and

determining the curvature of said foot from said imprint by calculating the rate of change of said depth information at said one or more points.